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(12) **United States Patent**  
**Mueller et al.**(10) **Patent No.:** US 7,179,765 B2  
(45) **Date of Patent:** Feb. 20, 2007(54) **PROCESS FOR PREPARING HYDROGEN PEROXIDE FROM THE ELEMENTS**(75) Inventors: **Ulrich Mueller**, Neustadt/Mussbach (DE); **Olga Metelkina**, Ludwigshafen (DE); **Henrik Junicke**, Mannheim (DE); **Thomas Butz**, Ludwigshafen (DE); **Omar M. Yaghi**, Ann Arbor, MI (US)(73) Assignees: **BASF Aktiengesellschaft**, Ludwigshafen (DE); **The Reagents of the University of Michigan**, Ann Arbor, MI (US)

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(51) **Int. Cl.**  
**B01J 31/12** (2006.01)(52) **U.S. Cl.** ..... 502/150; 556/27; 556/28; 556/30; 556/42; 556/45; 556/51; 556/57; 556/64; 556/81; 556/110; 556/118; 556/136; 556/138(58) **Field of Classification Search** ..... 502/150; 556/27, 28, 30, 42, 45, 51, 57, 64, 81, 110, 556/118, 136; 558/138

See application file for complete search history.

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Primary Examiner—Wayne A. Langel

(74) Attorney, Agent, or Firm—Oblon, Spivak, McClelland, Maier &amp; Neustadt, P.C.

(57) **ABSTRACT**

The present invention relates to a process for the preparation of hydrogen peroxide from oxygen or oxygen-delivering substances and hydrogen or hydrogen-delivering substances in the presence of at least one catalyst containing a metal-organic framework material, wherein said framework material comprises pores and a metal ion and an at least bidentate organic compound, said bidentate organic compound being coordinately bound to the metal ion. The invention further relates to a novel material consisting of said metal organic framework material wherein the material is brought in contact with at least one additional metal.

**10 Claims, No Drawings**